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Original article

CHLORAMPHENICOL, SULFONAMIDE AND TETRACYCLINE RESIDUES IN CULTURED RAINBOW TROUT MEAT (*ONCORHYNCHUS MYKISS*)

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Summary

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There are many concerns about safety of food contaminated with antibacterial residues. This study was designed to investigate the occurrence of tetracyclin (TC), chloramphenicol (CAP) and sulfonamide residue in cultured rainbow trout meat. A total of 100 samples of *Oncorhynchus mykiss* were collected from various markets in northwest regions of Iran. The prepared samples were analysed for these antibiotic residues using ELISA method. Results showed that up to 56% of the samples were contaminated with three antibiotics. The antibiotic residues concentrations in the positive samples ranged within 0.09–22.12 ng/g and the TC contamination (30%) was the highest percentage of antibiotic residues in fish meat samples. Amount of mean concentration of TC residue (8.44±6.03 ng/g) in positive samples was higher in comparison with other antibiotics. In all positive samples the TC and sulfonamide levels were below the maximum residue limit (200 and 100 µg/kg respectively). Of the 100 samples analysed for residues, CAP was detectable in only seven samples. These data showed that despite the prohibition of CAP application in food animals including aquaculture, CAP residues were detectable indicating an illegal use of this antibiotic. So, the obtained results from analysis of fish meat samples were considered to be a positive sign in terms of food safety. Also, these analyses are performed as routine according to the national residue monitoring plan of the Republic of Iran.

Key words: antibiotics residue, food safety, *Oncorhynchus mykiss*

INTRODUCTION

Fish is reported by the Food and Agriculture Organization to contribute about 60% of the world's supply of protein and that 60% of the developing world derives more than 30% of their annual protein from fish (Anonymous, 2004).

The accelerated growth of aquaculture has resulted in a series of harmful effects